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January 21, 2005
Job No. 1561.01

Mr. Don Appleton
Fortuna United Methodist Church
P.O. Box 246
Fortuna, California 95540

Subject: **Results of Additional Sampling / Site Closure Request**
Fortuna Methodist Church, 922 N Street, Fortuna, California
LOP #12781

Dear Mr. Appleton:

This report presents the analytical results of water samples collected from the onsite church basement. This report also presents provides a summary of available known site information and presents a request for regulatory case closure. The site is approximately located as shown on the Site Location Map, Plate 1. The sampling performed was in accordance with recommendations made in our May 7, 2004 Results of Investigation Report and with requests outlined in June 24, 2004 letter from Ms. Leanne Schroyer of the Humboldt County Department of Health and Human Services Environmental Health Division (HCDHHS-EHD).

Background

It is our understanding that on July 25, 2001, Beacom Construction, of Fortuna, California removed one underground storage tank (UST) from the subject property. The approximate location of the former UST and general site features are shown on the Site Plan, Plate 2. The UST reportedly contained approximately 320 gallons of diesel/heating oil at the time of removal. The UST was reportedly disposed of at Hansen Truck Stop in Eureka, California on July 21, 2001. The UST's contents were reportedly pumped from the tank to DOT drums and the drum contents were reportedly disposed of by Chico Drain Oil on September 5, 2001. The tank reportedly contained several pinholes on the bottom and a strong fuel odor was reported during the removal process.

Soil samples collected from the eastern and western walls of the excavation at approximately 4 feet below grade (BG) were analyzed for total petroleum hydrocarbons (TPH) as gasoline (g), TPH as diesel (d), benzene, toluene, ethyl benzene, total xylenes (BTEX), methyl tert butyl ether (MTBE), and the additional four oxygenated fuel additives. The laboratory results of the samples collected indicate that impact from TPH-g, TPH-d, and BTEX constituents were being detected. The laboratory analytical results of the samples collected from the tank pit are tabulated below in Table 1, page 2.

Table 1: Soil sample Results from Tank Pit - July 2001

Date	Sample ID	TPH-g	TPH-d	B	T	E	X	MTBE
		mg/Kg						
07/31/01	East	**4.3**	**120**	<0.005	<0.005	**0.010**	**0.017**	<0.050
	West	**990**	**14**	<0.50*	<0.50*	<0.50*	**1.09**	<0.50*

<1.0 = Less than the indicated laboratory test method detection limit.
* = Reporting limits were increased due to high concentrations of target analytes.

On March 4 and 5, 2004 TTC and Clear Heart Drilling of Santa Rosa, California, were onsite to advance three soil borings (B-1 through B-3) at the approximate locations shown on Plate 2. The purpose of the investigation was to assess the impact to soil and groundwater in the vicinity of the former UST and to determine a general groundwater flow direction. The boring locations were intended to provide analytical data in all available directions relative to the former UST.

A total of six soil samples and three groundwater samples were collected and analyzed for petroleum hydrocarbon constituents by Alpha Analytical Laboratories of Ukiah, California. Four of the soil samples were collected and preserved in accordance with EPA 5035 protocols. The soil samples collected were analyzed for TPH-g, TPH-d, BTEX and methyl tert butyl ether (MTBE) using EPA Test Methods (EPA) 8015 and 8020. The groundwater samples collected from the borings were analyzed for TPH-g, TPH-d, BTEX, MTBE and the four additional oxygenated fuel additives using EPA 8015 and 8260B. The analytical results of the soil samples collected are presented on Table 2 and the analytical results of the groundwater samples collected are presented on Table 3.

Table 2: Soil Sample Analytical Results

Date	Sample ID	TPH-g	TPH-d	B	T	E	X	MTBE
		mg/Kg						
03/04/04	B-1-5'	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0
	B-1-10'	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0
	B-1-15'	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0
	B-2-8.5'	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0
	B-2-14'	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0
	B-3-9'	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0

<1.0 = Less than the indicated laboratory test method detection limit.

Table 3: Groundwater Sample Analytical Results

Date	Sample ID	TPH-g	TPH-d	B	T	E	X	MTBE
		µg/L						
03/04/04	B-1	<50	**150**	<0.30	<0.30	<0.50	<0.50	<0.50
	B-2	<50	**120**	<0.30	<0.30	<0.50	<0.50	<0.50
	B-3	<50	<50	<0.30	<0.30	<0.50	<0.50	<0.50
<1.0 = Less than the indicated laboratory test method detection limit.								

Gradient Estimation

At the completion of the drilling activities on March 4, 2004, temporary casings were placed in each borehole and trench plates were placed over them. The water levels were allowed to stabilize overnight prior to measuring water level depths in each borehole. In an effort to estimate the groundwater flow direction at the subject property, we performed a relative groundwater elevation survey on March 5, 2004. The relative survey of water level elevations was performed using a laser level and assumed an instrument height of 100 feet. The relative groundwater elevation data was used to determine the approximate groundwater flow direction and evaluate the slope of the potentiometric surface in the direction of flow. The groundwater depths, the calculated groundwater elevations and the estimated groundwater flow direction and gradient for the March 5, 2004 monitoring event are presented on Table 4, below. Relative elevations and water level depths are expressed in feet and the gradient is expressed in feet per foot.

Table 4: Estimated Groundwater Flow Direction and Gradient Data

Date	Well ID	Reference Point Elevation (feet)	Water Level Depth from Reference Point (feet)	Relative Groundwater Elevation (feet)	Estimated Flow Direction and Gradient (i) (ft/ft)
03/04/04	B-1	95.33	3.61	91.72	S10°E i = 0.04
	B-2	95.21	3.92	91.29	
	B-3	95.32	3.39	91.93	

Site Description

The subject property is located on the northern portion of Fortuna. There are two buildings on the subject site. The church is the largest building on the property and the second smaller building is

used as the church nursery. The subject property is situated on the northwest corner of N street and 10th Street. An east-west trending alley way is adjacent to the property along the northern portion of the site.

The subject site is located near the northeastern edge of the Eel River Valley at approximately 60 feet above sea level and approximately 0.5 miles northeast of the Eel River, 0.4 miles west of Rohner Creek and approximately 10 miles from the Pacific Ocean. Based on review of published geologic data, the site appears to be underlain by Quaternary Age flood plain deposits, and sand, silt, and gravels deposited in marine, estuarine and fluvial environments.

Field Activities

On December 12, 2004, TTC staff and Mr. were onsite to collect a grab water sample from inside the basement of the church on the subject property. The basement is located immediately to the north of the former underground heating oil tank. The purpose of the sample collection was to determine if the limited groundwater impact detected in the soil borings was detectable in the water that accumulates in the basement during the winter months. A grab sample was retrieved from the basement and transferred into the appropriate sample containers provided by the laboratory. Upon sample recovery, the samples were labeled, stored under refrigerated conditions and transported under Chain of Custody documentation to Analytical Sciences Laboratories of Petaluma, California.

Laboratory Chemical Analysis

The grab water samples collected from the site basement were analyzed for TPH-d using EPA 8015. The laboratory analytical results from the water samples collected are tabulated on Table 5, below and are presented in micrograms per liter (µg/L). The laboratory analytical report and Chain-of-Custody documentation are presented in Appendix A.

Table 5 : Basement Water Sample Results

Date	Sample ID	TPH-d
		µg/L
12/12/04	Basement-1	<50
<1.0 = Less than the indicated laboratory test method detection limit.		

Closure

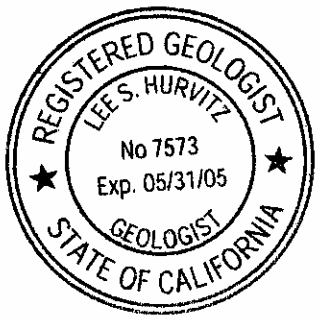
The groundwater sample analyses' results from borings B-1 through B-3 were below laboratory test method detection limits for TPH-g, BTEX and MTBE. However, TPH as diesel was detected in groundwater samples collected from borings B-1 and B-2 at concentrations of 150 and 120 µg/L, respectively. Soil sample analyses from borings B-1 through B-3 were below laboratory test method detection limits for all constituents. The TPH as gasoline concentrations detected in samples collected during the tank excavation were not confirmed during our investigation. Further, based on conversations with representatives of the Fortuna Methodist Church, it is our understanding the former UST was used exclusively to store heating fuel. Since no impact to soil was detected in borings B-1 to B-3, it appears likely that the lateral extent of groundwater impact is not significant. In our opinion, groundwater concentrations should remain relatively stable or decline over time. Borings B-1 and B-2 were located in the estimated side and down-gradient directions relative to the former tank excavation. Boring B-2 was drilled within one foot of the excavation boundary. The concentrations detected in boring B-2 are judged to be representative of the highest levels of impact remaining in place.

Our research for the SRS identified a seasonal onsite groundwater receptor with a risk level that had not been evaluated. Water that periodically collects in the basement during the winter, may be impacted with petroleum hydrocarbons. However, subsequent sampling and testing of the water in the basement has indicated that no impact is being detected and therefore no apparent risk has been identified. Onsite utility trenches appear to pose a potential threat for contaminant migration. This is in large part due to the relatively high groundwater levels measured at the site. However, based on the relatively low levels of groundwater impact detected to date, we do not expect the groundwater plume to be widespread and therefore contaminant migration is expected to be minimal.

Based on the identified levels of impact to both soil and groundwater and the absence of confirmed VOC's in soil as well as the absence of high risk receptors, we recommend that the this site be considered for regulatory case closure and that no further action be required.

We appreciate the opportunity to be of service to you and trust that this provides the information you require at this time. If you have any questions or require any additional information please feel free to contact us at (707) 575-8622 or www.transtechconsultants.com.

Sincerely,
TRANS TECH CONSULTANTS



Lee S. Hurvitz, RG 7573
Senior Geologist

Attachments: Plate 1, Site Location Map
Plate 2, Site Plan with Boring Locations and Utilities
Appendix A, Analytical Sciences Laboratory Report dated December 21, 2004
Distribution List

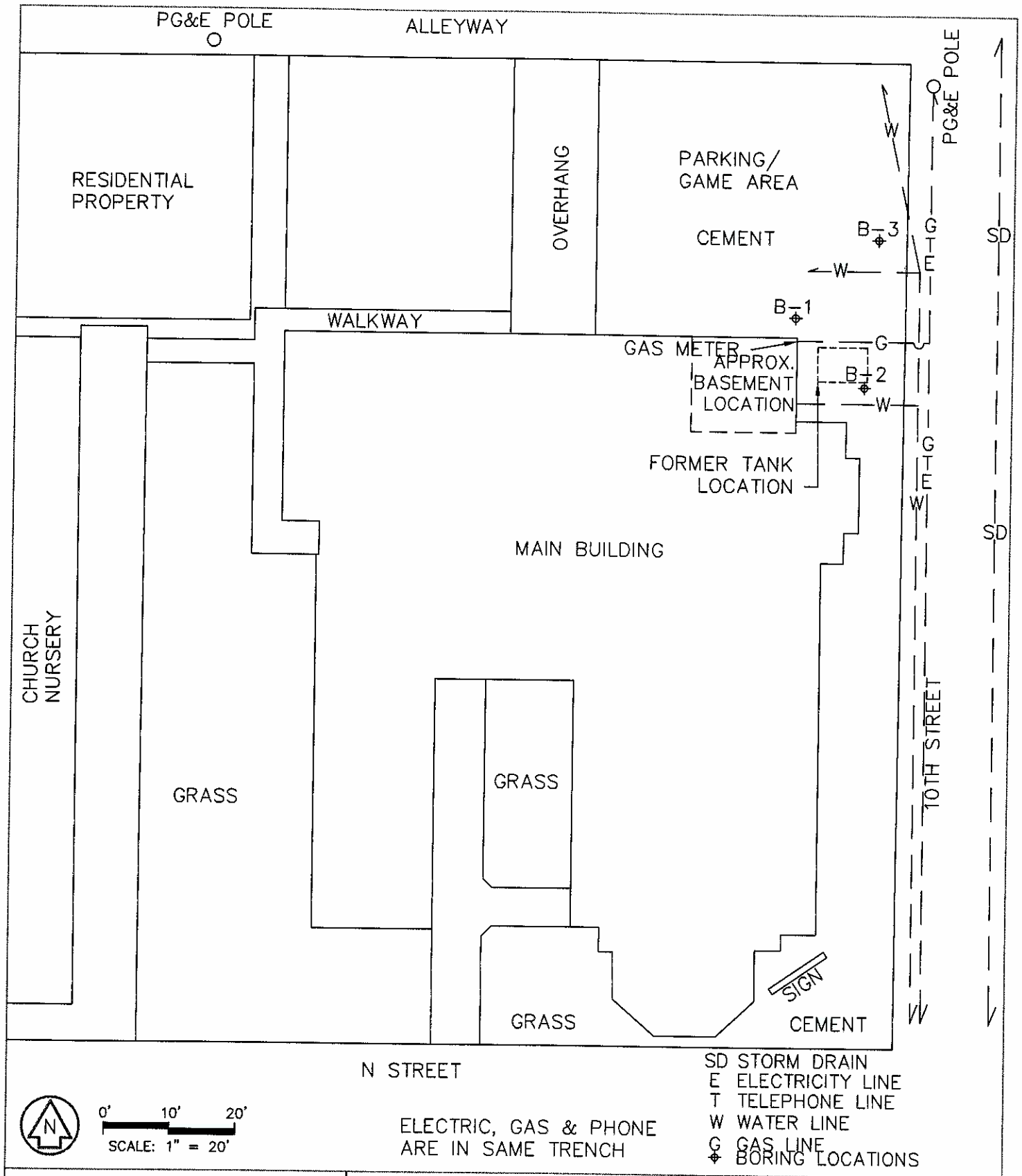
TRANS TECH CONSULTANTS
930 SHILOH RD., BLDG 44, SUITE J
WINDSOR, CA 95492
PHONE: 707-575-8622 FAX: 707-837-7334

SITE LOCATION MAP

FORTUNA METHODIST CHURCH
922 N STREET
FORTUNA, CALIFORNIA

PLATE: 1

DRAWN BY:	DWG NAME:	APPR. BY:	JOB NUMBER:	W.O. NUMBER:	REVISIONS:	DATE:
PSC	1561.01 SLM	BCW	1561.01	A-337		12/10/03



TRANS TECH CONSULTANTS
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PHONE: 707-575-8622 FAX: 707-837-7334

SITE PLAN

FORTUNA METHODIST CHURCH
922 N STREET
FORTUNA, CALIFORNIA

PLATE: 2

DRAWN BY:	DWG NAME:	APPR. BY:	JOB NUMBER:	W.O. NUMBER:	REVISIONS:	DATE:
PSC	1561.01 SP	PBL	1561.01	A-337		5/4/04

APPENDIX A

Analytical Sciences

Report Date: December 21, 2004

Bill Wiggins
Trans Tech Consultants
930 Shiloh Road, Bldg. 44, Suite J
Windsor, CA 95492

LABORATORY REPORT

Project Name: **Fortuna Methodist Church** **1561.01**

Lab Project Number: **4121403**

This 3 page report of analytical data has been reviewed and approved for release.

Mark A. Valentini, Ph.D.
Laboratory Director

PO Box 750336
Petaluma, CA 94975-0336
Telephone: (707) 769-3128

110 Liberty Street
Petaluma, CA 94952
Fax: (707) 769-8093

TPH Diesel in Water

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
27091	**Basement-1**	**TPH/Diesel**	**ND**	50

Date Sampled:	12/12/04	Date Extracted:	12/14/04	QC Batch #:	5120
Date Received:	12/14/04	Date Analyzed:	12/14/04	Method:	EPA 3510/8015M

LABORATORY
QUALITY ASSURANCE REPORT

QC Batch #: 5120 **Lab Project #:** 4121403

Sample ID	Compound	Result (ug/L)
MB	TPH/Diesel	ND

Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.
LCS	TPH/Diesel	2,680	2,730	98.2

Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.	RPD
LCSD	TPH/Diesel	2,690	2,730	98.5	0.37

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range; NR = No Recovery

Analytical Sciences

Analytical Sciences
P.O. Box 750336, Petaluma, CA 94975-0336
110 Liberty Street, Petaluma, CA 94952
(707) 769-3128
Fax (707) 769-8093

CHAIN OF CUSTODY

LAB PROJECT NUMBER: 4121403
TRANS TECH PROJECT NAME: 1561.01 - Fortuna Methodist Church
TRANS TECH PROJECT NUMBER:

CLIENT INFORMATION

COMPANY NAME: TRANS TECH CONSULTANTS
ADDRESS: 930 SHILOH RD, BLDG 44, STE J
WINDSOR, CA 95492
CONTACT: Bill C. Wiggins
PHONE#: (707) 575-8622
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Windsor Ca.
PHONE#: (707) 575-8622
FAX #: (707) 837-7334

TURNAROUND TIME (check one)

MOBILE LAB ____
SAME DAY ____ 24 HOURS ____
48 HOURS ____ 72 HOURS ____
5 DAYS ____ NORMAL ✓

GEOTRACKER EDF: ___Y___N
GLOBAL ID: ____
COOLER TEMPERATURE: Deel °C
COC
PAGE 1 OF 1

ITEM	CLIENT SAMPLE I.D.	DATE SAMPLED	TIME	MATRIX	# CONT.	PRESV. YES/NO	TPH/GAS/BTEX & MTBE EPA 8015M/8020	TPH DIESEL / [illegible] EPA 8015M	VOLATILE HYDROCARBONS EPA 8260 (FULL LIST)	BTEX & OXYGENATES + PB SCAVENGERS EPA 8260B	OXYGENATED FUEL ADDITIVES EPA 8260M	CHLORINATED SOLVENTS EPA 8010 / EPA 8260B	SEMI-VOLATILE HYDROCARBONS EPA 8270	TRPH / TOG SM 5520F / EPA 418.1M	PESTICIDES / PCB'S EPA 8081 / 8141 / 8082	CAM 17 METALS / 5 LUFT METALS	TOTAL LEAD			COMMENTS	LAB SAMPLE #
1	Basement-1	12/12/04	4:00PM	W	2	N		X												[illegible]	27091
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					

SIGNATURES

SAMPLED BY: Bill C. Wiggins

RELINQUISHED BY: Bill C. Wiggins (SIGNATURE) — 12/14/04 (DATE) — 10:20AM (TIME)

RECEIVED BY LABORATORY: [signature] (SIGNATURE) — 12/14/04 (DATE) — 12:40 (TIME)

Distribution List
Results of Additional Sampling
Site Closure Request
Fortuna Methodist Church
922 N Street
Fortuna, California
Job No. 1561.01
January 21, 2005

Ms. Leanne Schroyer
Humboldt County Department of
Health and Human Service
Environmental Health Division
100 H Street, Suite 100
Eureka, California 95501